

Work Order ID 150218***150218***

Page 1

Wednesday, August 24, 2016 11:28:13 AM

Item ID: 646.3910

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Shim

Start Date: 8/3/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 8/24/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

DAS

21

9-89

Date: AUG 25 2016

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

646.3900

nc1

0.01

110

Waterjet

0.05

FLOW CNC Waterjet

Memo

1-Cut as per Dwg

Dwg Rev: NC1Prog Rev: NC1

2-Deburr if necessary

0.00

120

QC2- Inspect parts off machine FAI/FAIB

0.02

120

QC

Quality Control

Memo

(12) 17

on 16/09/12

(12) 17

on 16/09/12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
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Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

Work Order ID 150218

Wednesday, August 24, 2016 11:28:13 AM

150218

Page 3

Item ID: 646.3910 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Shim
Start Date: 8/3/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 8/24/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC5- Inspect part completeness to step on W/O	0.00							
160									
QC	Memo	0.03							
Quality Control									
170	Identify as per dwg & Stock Location: <u>CK100</u>	0.00							
170									
Packaging	Memo	0.02							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND REV***								
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.17							
Quality Control									

DAS
21
9-89

OCT 12 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER : 			
Misidentified ☐	☐	Past Due	☐				

Picklist Print

Wednesday, August 24, 2016 11:28:12 AM

Page 1
1

Work Order ID: 150218

150218

Parent Item: 646.3910

646.3910

Parent Item Name: Shim

Start Date: 8/3/2016

Required Date: 8/24/2016

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 12.12.23 NEW ISSUE DD VERF:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MC1095S.020		Purchased	No			110	sf	2.3000	0.03	0.31579			

MC1095S 020

C1095 Blue Tempered Spring Steel Sheet .020 mcmaster p/n: 9036K499

on 16/09/12

Location

Loc Qty

Loc Code

MAT019

2.3

M130477

2.3

.8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					



APICAL INDUSTRIES, INC.
dba DART AEROSPACE

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

ENGINEERING CHANGE NOTICE NO.

05243

SHEET 1 OF 1

DWG NO. 646.3900

REV: N/C PREPARED BY

J. BECKER

DATE: 11/13/15

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: SHIM

APPROVED BY:

ENGR

MFG

QC

EFF.

CURRENT ORDER

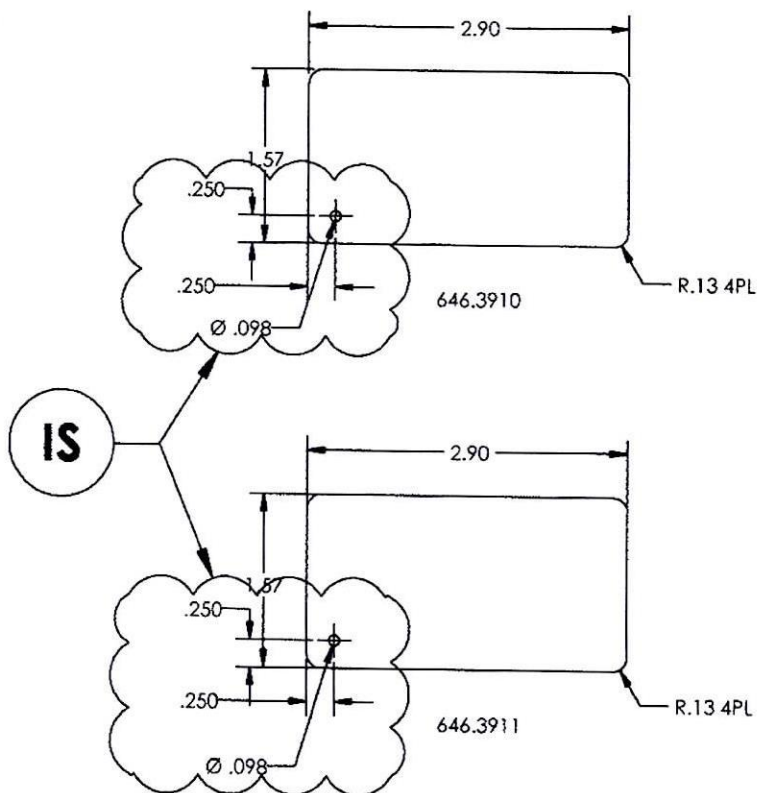
REASON: REVISED VIEWS. UPDATED TEMPLATE AND TITLE BLOCK.

ECR:

15-275

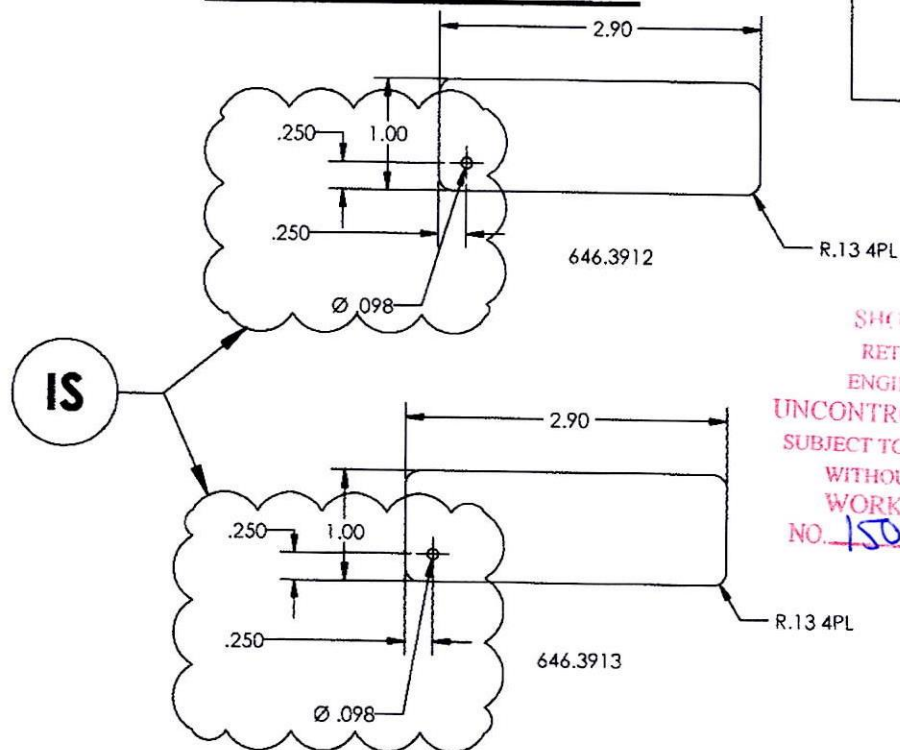
ACTION ITEM:
1. N/A.

SHEET 1, ZONE B2 IS:



SHEET 1, ZONE C2 IS:

SHEET 1, ZONE B5 IS:



SHEET 1, ZONE C5 IS:

SHIP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 150218 MJS
16-05-25

DOCUMENTS EFFECTED:

☐ PATTERN ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

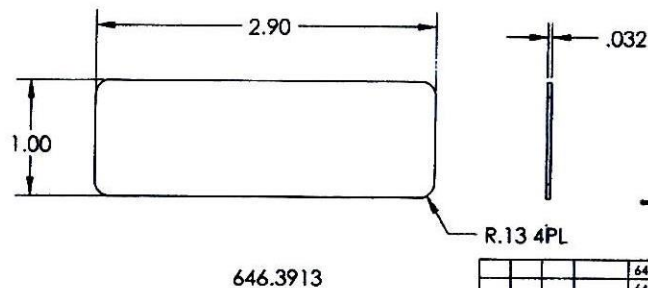
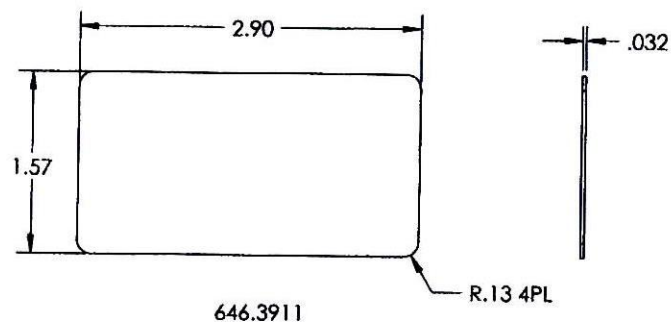
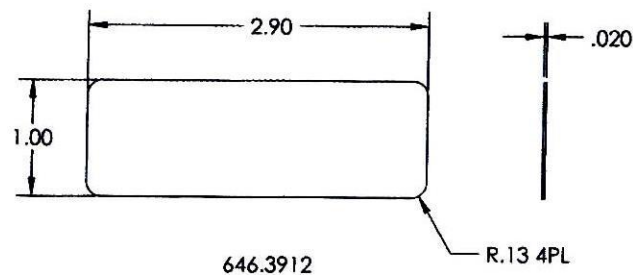
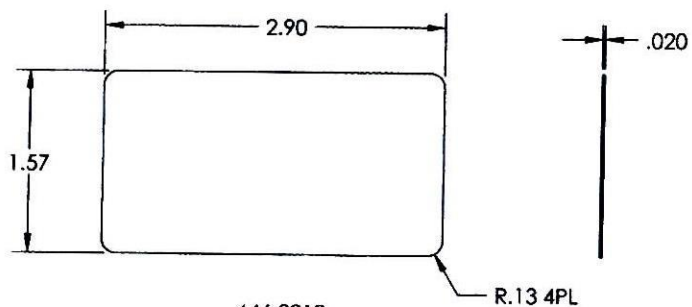
☐ YES ☒ NO

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REV.	DESCRIPTION	DATE	APPROVED

NOTES:

- 1 MATERIAL: SHIM STOCK, C1095 BLUE-TEMPERED SPRING STEEL
- 2 FINISH: CAD PLATE PER QQ-P-416 TYP II CL2
- 3 IDENTIFY IAW MPP-120



UNINCORPORATED ECN(s)

05243

		646.3913	SHIM	▲	▲
		646.3912	SHIM	▲	▲
		646.3911	SHIM	▲	▲
		646.3910	SHIM	▲	▲
	FIND #	PART #	DESCRIPTION	MATL	SPEC.
QTY	PARTS LIST				
NEXT ASSY (S)	ORIGINAL DATE 09-03-08 DRAWN BY P. BRAYO CHECKED P. BRAYO DESIGNED APPROVAL P. BRAYO CONTRACTING 				
646 4000	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.3° APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300				
			SHIM		
CAGE CODE		DWD NO		REV.	
B 07M26		646.3900		N/C	
SCALE NONE			SHEET 1 OF 1		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO33774**

Purchase Order Date 9/27/2016

PO Print Date 9/30/2016

Page Number 1 of 3

Order From : VC-ALT01
GROUP ALTECH
2455 HALPERN
ST LAURENT, MONTREAL H4S 1N9

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 514-335-3666
Ship To Contact
Ship To Phone
Ship Via: FedEx Economy collect
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FOB Origin

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
2	150715	646.3912 shim	10/12/2016 Yes 10/12/2016		25.00	\$3.51	\$87.80
	CAD PLATE PER QQ-P-416, TYPE II, CLASS 2, CL2						
	Line Total:						\$87.80
3	150218 ✓	646.3910 shim	10/12/2016 Yes 10/12/2016		17.00	\$3.51	\$59.70
	CAD PLATE PER QQ-P-416, TYPE II, CLASS 2, CL2						
	Sp/6-10-11						
	Line Total:						\$59.70
4	150627	646.3910 shim	10/12/2016 Yes 10/12/2016		18.00	\$3.51	\$63.21
	CAD PLATE PER QQ-P-416, TYPE II, CLASS 2, CL2						

Note:

9/30/2016



2455, Halpern, Saint-Laurent, QUÉBEC, H4S 1N9
Tel.:(514)335-3666 Fax.:(514)335-3868
Internet : www.groupaltech.com

Bon de livraison / Packing Slip
et / and
Certificat de conformité / Certificate of Compliance

Bon-Livraison / Pk.Slip # : 121781-1 05/10/2016
Bon-Commande. / W.Order # : 121781
Client P.O. # : 33774
Transport :

Envoyé à / Ship to

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

Commandé par / Order by

DART AEROSPACE LTD (1427)
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

#	<u>No. Job</u> <u>No. Réf</u>	<u>NoSerie / Part Number</u> <u>Nom Produit / Product</u>	<u>Traitement</u> <u>Process</u>	<u>Poids</u> <u>Weight</u>	<u>Qté</u> <u>Qty</u>	<u>Envoyé</u> <u>Sent</u>	<u>A venir</u> <u>BO</u>
1	UNIT	646.3912 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:2	0.00	25	25	0
2	UNIT	646.3910 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:2	0.00	17	17	0
3	UNIT	646.3910 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:2	0.00	18	18	0
4	UNIT	D3028-1 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1	0.00	20	20	0
5	UNIT	D212-725-1-111 Rev. ENGINE MOUNT	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1	0.00	4	4	0

Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
Our financial and legal responsibility will not be higher than the amount of invoice.